

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/04798

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A45C 5/14, 13/02

US CL : 190/18A, 109, 110

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 190/18A, 109, 110, 111

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,244,632 A (MOLINARI) 13 January 1981 (13.01.1981), see members 1 and 8.	1-16
Y	US 4,538,861 A (HUGHES, JR.) 03 September 1985 (03.09.1985), see members 50-53.	1-16
Y	FR 2,577,773 A3 (GIAMPAOLO) 29 August 1986 (29.08.1986), see members 15.	2 and 9
Y	US 5,788,032 A (KRULIK) 04 August 1998 (04.08.1998), see members 35-1 and 37.	3, 4, 10 and 11
Y	US 2,718,943 A (BRAVERMAN) 28 September 1955 (27.09.1955), see members 124 and 126.	4 and 11
Y	US 6,547,070 B1 (KOLPIN) 15 April 2003 (15.04.2003), see members 30 and 34.	5 and 12
Y	US 5,295,565 A (LATSHAW) 22 March 1994 (22.03.1994), see members 49 and 70.	6, 7, 13 and 14
Y	US 2003/0015559 A1 (OH) 23 January 2003 (23.01.2003), see members 15, 120 and 200.	15 and 16
A	US 1,921,110 A (WHEARY) 08 August 1933 (08.08.1933) see member 13.	1 and 8



Further documents are listed in the continuation of Box C.



See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

28 April 2005 (28.04.2005)

Date of mailing of the international search report

06 JUN 2005

Name and mailing address of the ISA/US

Mall Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Sue A. Weaver

Telephone No. (703) 308-1148

**INTERNATIONAL SEARCH REPORT**International application No.  
PCT/US05/04798**C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2,209,781 A (LEWIS) 30 July 1940 (30.07.1940), see member 29.	1 and 8
A	US 5,560,483 A (SEQUIN) 01 October 1996 (01.10.1996), see members 16.	1 and 8